

OFFICE OF INSTITUTIONAL EFFECTIVENESS

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2003 GENERAL EDUCATION TESTING OF GRADUATES

The Office of Institutional Effectiveness administered either the College BASE or the ETS Academic Profile general education examination to the 2003 graduation candidates during the months of November and March, with make-up sessions being proctored in April and until graduation in May. Graduates were tested at the Savannah and Lexington Centers as well as on the main campus.

This is the third year in this Performance Funding cycle. For this cycle, Jackson State originally proposed to administer the short-form (one subject only, randomly assigned) College BASE to 50% of its graduates and to pilot the short-form ETS Academic Profile with the other 50% of the graduates annually. However, as explained in previous reports, the short-form College BASE requires a larger sample size to get valid statistics to generate our official Performance Funding points in general education. In Spring 2003, 333 College BASE exams were scored. In addition, there were 104 short-form ETS Academic Profile exams administered to the other graduation candidates.

Standard I. A. College BASE

Although College BASE uses median scores (JSCC 2002 = 265) for all reporting and comparisons, the state of Tennessee requires mean scores for Performance Funding. Therefore, the scoring service sends us reports based on both the medians and the means. We submit the mean scores for Performance Funding and other reports required by TBR and THEC. Jackson State's composite mean score for the 2002-2003 year was 269 and the national reference group mean was 271. This compares with a 2002 mean of 278 for Jackson State, showing a decrease for this institution for both national and self-comparisons.

The four subject areas that make up the College BASE examination are English, mathematics, science, and social studies. Figure 1 illustrates the institution's recent historical self-comparisons on both the composite score and the individual subject scores. Note the mixed results of this year's scores, which are exactly opposite of last year's mixed results. This year's Science and Math scores explain the 2003 lower composite mean.

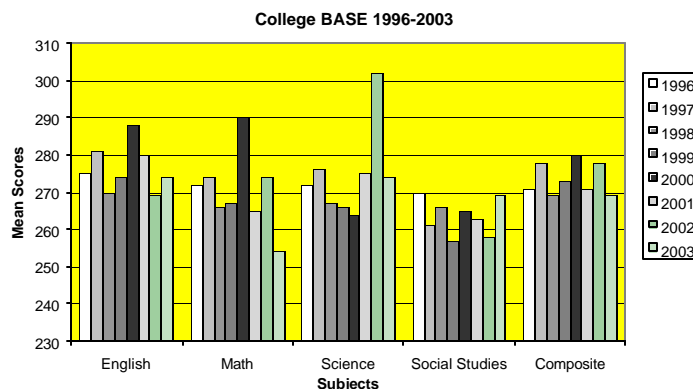


Figure 1. Jackson State Community College College-BASE scores 1996-2003.

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JACKSON STATE COMMUNITY COLLEGE

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The specific mean scores are shown in Table 1. The standard deviation for each 2003 subject-area score is shown in parentheses under the mean.

Table 1. Jackson State Community College subject-area and composite mean scores on the College BASE for 1996 – 2003.

	English	Math	Science	Social Studies	Composite
1996	275	272	272	270	271
1997	281	274	276	261	278
1998	270	266	267	266	269
1999	274	267	266	257	267
2000	288	290	264	265	280
2001	280	265	275	263	271
2002	269	274	302	258	278
2003	274 (61)	254 (60)	274 (56)	269 (56)	269

Each of the subjects is tested and scored in clusters that emphasize various cognitive skills within the subject. English is scored in reading and literature and in writing. Mathematical competence is evaluated in the areas of general math, algebra, and geometry. Laboratory fieldwork and fundamental concepts constitute the science knowledge base tested. History and the social sciences constitute the social studies clusters. Figure 2 compares Jackson State's 2003 performance to the national two-year institutions' scores. Note that although our 2003 graduates' performance dropped from slightly to dramatically on the Science subject and cluster scores when compared to our 2002 graduates' scores, their performance was still moderately stronger than that of the national reference group on all Science scores. Their performance was also slightly to moderately higher than national on the Social Sciences cluster score and the English and Social Studies subject scores. The weakest area for this year's cohort appears to be in Math, especially the Geometry and Algebra cluster scores, but is followed closely by the History subscale in Social Studies.

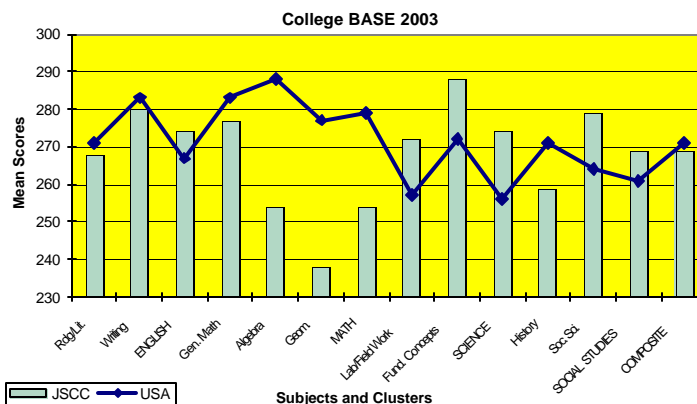


Figure 2. Jackson State and national College-BASE scores for 2003.

Table 2 compares Jackson State's test performance on these skill areas with the mean scores and percentiles for the 5,574 completed tests in the National Reference Group of 24 community colleges and two-year institutions, as illustrated in Figure 2.

Table 2. Comparison of Jackson State Community College and national reference group means and percentiles on subject and cluster scores of 2003 College BASE.

SUBJECT	JSCC MEAN	PERCENTILE	NATIONAL REFERENCE GROUP MEAN	PERCENTILE
COMPOSITE	269	52 ND	271	54 TH
Reading/ Literature	268	48 TH	271	50 TH
Writing	280	52 ND	283	54 TH
English	274	54 TH	267	50 TH
General Math	277	46 TH	283	50 TH
Algebra	254	29 TH	288	50 TH
Geometry	238	25 TH	277	50 TH
Mathematics	254	34 TH	279	50 TH
Lab Field Work	272	58 TH	257	50 TH
Fundamental Concepts	288	59 TH	272	50 TH
Science	274	60 TH	256	50 TH
History	259	41 ST	271	50 TH
Social Sciences	279	59 TH	264	50 TH
Social Studies	269	55 TH	261	50 TH

College BASE provides additional information about how students performed on the 23 clearly defined concepts and abilities necessary for success in each of the four subjects. Those scores are reported as High, Medium, or Low based on student success in answering a number of questions for each skill. The 23 skill areas include: Reading Critically, Reading Analytically, Understanding Literature, Writing as a Process, Conventions of Written English, Writing Exercise (NOT used with the short-form CBASE), Practical Applications of Math, Math Properties and Notations, Using Statistics, Evaluating Algebraic Expressions, Equations & Inequalities, 2- & 3-Dimensional Figures, Geometrical Calculations, Scientific Observation/Experimental Design, Laboratory/Field Techniques, Interpreting Experiment Results, Life Sciences, Physical Sciences, Significance of World Events, Significance of U.S. Events, Geography, Political/Economic Structures, and Social Science Procedures. Figure 3 depicts the proficiency levels of the 2003 Jackson State graduates who took the CBASE. Note that although the students performed well on the science subject and clusters, no more than 20% of those taking that section of the CBASE performed at the highest level of proficiency in any of the specific competency areas. It is also notable that the basic pattern of change this year occurred predominantly at the HIGH and LOW levels of proficiency. On 10 of the 22 areas (Reading Analytically, Writing Processes, Written English, Math Applications, Math Properties & Notations, Evaluating Algebraic Expressions, Equalities/Inequalities, Geometric Calculations, Significance of US Events, and Political/Economic Structures), the percentage of students scoring at HIGH increased but on 17 of the 22 areas (Reading Analytically, Written Processes, Math Applications, Math Properties

& Notations, Using Statistics, Evaluating Algebraic Expressions, Equalities/Inequalities, 2 & 3 Dimensional Figures, Geometric Calculations, Observation/Experimental Design, Lab/Field Techniques, Interpreting Results, Life Sciences, Significance of World Events, Significance of US Events, Political/Economic Structures, and Social Sciences Procedures), the percentage of students scoring at LOW proficiency levels increased.

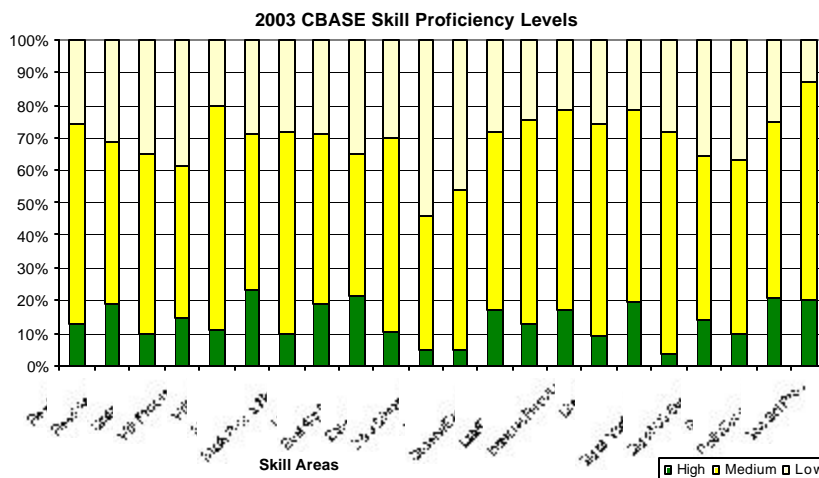


Figure 3. Percentages of students who performed proficiently in each skill area.

As in past years, the students who tested during 2002-2003 continued to be unhappy with the short-form CBASE, feeling it was unfair to test someone on one subject alone when they had barely passed their only course in that subject or when their program of study did not require any related coursework.

Scoring

According to the Performance Funding guidelines, institutions have three scoring options for determining the number of points to be requested on this year's report. The institution may use the option that will give the most points possible. Briefly, Option 1 is a comparison of the mean score to the national norm. Option 2 is a comparison of the mean score to the previous year's institutional mean. The other option is a comparison to national percentile ranking with any institution that meets or exceeds the national 55th percentile automatically receiving the full 15 points possible—such as Jackson State did last year. This year, Jackson State Community College will be using Option 2 to request only 11 of 15 points for general education testing on Performance Funding Standard I. A. for 2002-2003, a loss of four Performance Funding points from last year.

Standard I. B. ETS Academic Profile

This was the fifth year Jackson State participated in a TBR-approved general education pilot-testing program. During the first two of the previous years, a portion of our graduates pilot-tested the short-form C-BASE while the majority continued to take the long-form, four-subject, three-hour C-BASE. Beginning in 2001, one group has been tested using the short-form, one-subject College BASE exam that takes approximately forty-five minutes to complete while the other group has participated in the pilot exam using the short-form ETS Academic Profile test that takes approximately forty minutes to complete. According to the college's Performance Funding Program Plan for this new cycle, students were to be divided randomly into two equal groups. However, due to the over-sampling necessary for the CBASE scoring protocol for the short-form test, we are currently testing only 20-35% of the graduation candidates with the Academic Profile. In 2003, 104 students took this General Education exit exam.

Jackson State's primary national reference group for the Academic Profile (USA_AA/Soph) includes data based on the institutional means of 28 Associate-granting institutions that administered the Academic Profile in 2001-2002. To be included in a reference group, colleges must have tested at least 30 students using the long-form version or at least 40 students using the short-form version of the Academic Profile. Institutional comparisons can give a picture of how the average student taking the test at JSCC compares to the average student taking the test at the colleges in the reference group. Additionally, comparative data are provided for individual scores and percentiles from the same institutions (USA_AA/Stu.). The individual statistics provide our reference percentiles for the Total Score, Skill Subscores, and Proficiency Subscores and can also allow our office to provide specific comparative information to individual JSCC graduates. The reference group statistics shown in Figure 4 represent the grand group mean (institutional) for the 28 Associate-granting community colleges, four-year colleges, or universities (USA_AA/Soph) and the total mean (individual) of the 3,253 sophomore students who took the exit exams at the 28 institutions (USA_AA/Stu.).

Figure 4 shows the comparison of mean total scores for JSCC and the two applicable national reference groups for 2002 and 2003. The scale for total score means ranges from 400 to 500. Observe that Jackson State's mean total score decreased in 2003 ($M = 442.83$) but continues to exceed the total mean for sophomores at Associate of Arts-degree granting colleges and universities ($M = 441.9$) as well as the grand mean for the 28 institutions ($M = 442.78$).

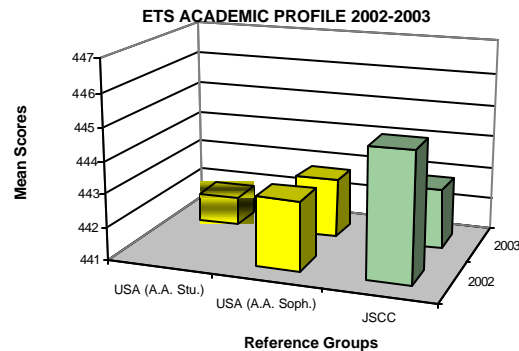


Figure 4. Comparison of mean total scores for Jackson State Community College and individual and institutional national references.

The specific institutional and reference group mean scores for each year are shown in Table 3. The table also shows the standard deviations and the percent of students or institutions scoring below the mean of JSCC or the reference group where that information is available.

Table 3. Institutional means, standard deviations, and percentiles for total scores of Jackson State Community College and two national reference groups for 2002 and 2003.

	JSCC	USA (A.A. Stu.)	USA (A.A. Soph.)	JSCC	USA (A.A. Stu.)	USA (A.A. Soph.)	
Mean	442.83	441.9	442.78	444.9	na	443.1	
Standard Deviation	15.81	17.5	4.5	16.1	na	5.5	
Reference Percentile	-	52 ND	54 TH	-	na	35 TH	
JSCC Percentile	54 TH	-	-	59 TH	na	-	

na = Not available

ETS also reports subscale scores for three academic areas and four skill dimensions. The scale for these scores ranges from 100 to 130 points. Means cannot be compared across academic areas or skill dimensions because of the wide variance of difficulty among the seven areas, i.e., a mean of 114.61 on Natural Sciences cannot necessarily be considered stronger than a mean of 110.63 on Critical Thinking. The simplest gauge of the current graduating cohort's performance is to compare the current means and percentiles to JSCC's previous scores on the short-form Academic Profile. Another reliable way to understand how our graduates actually performed is by comparing our subscale percentiles to those of the reference group students (USA_AA/Stu). Figure 5 illustrates how Jackson State's 2003 graduates performed on each of the seven subscales as benchmarked against that national reference group.

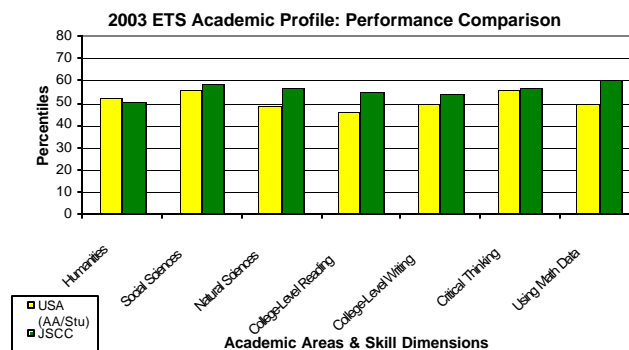


Figure 5. Subscale performance comparison for 2003.

Table 4 shows the actual subscale means and percentiles for this comparison. Jackson State graduates performed best, in comparison to the national group, in the Natural Sciences academic area and the Reading and Math skill dimensions. All other performance levels were very close to the national levels.

Table 4. 2002-2003 Jackson State Community College and national reference group means and percentiles for three academic areas and four skill dimensions.

	USA (AA/Stu.)			JSCC		
	Mean	Percentile Based on 2002 Statistics	Percentile Based on 2003 Statistics	Mean	Percentile Based on 2002 Statistics	Percentile Based on 2003 Statistics
Humanities	114.3	52 ND	52 ND	114.2	51 ST	51 ST
Social Sciences	113.0	56 TH	56 TH	113.4	59 TH	59 TH
Natural Sciences	114.7	49 TH	57 TH	114.6	48 TH	57 TH
College- level Reading	118.1	46 TH	55 TH	118.2	46 TH	55 TH
College- level Writing	114.0	50 TH	50 TH	114.7	54 TH	54 TH
Critical Thinking	110.5	56 TH	56 TH	110.6	57 TH	57 TH
Using Math Data	112.8	50 TH	61 ST	112.6	48 TH	60 TH

Note that there are two percentiles reported for the national mean and also for the JSCC mean. Because the national comparative data that ETS supplies are actually 2001-2002 mean and percentiles, the only way to get a true comparison is to put both the institutional (2003) means and the national (2002) means on both percentile scales. The institution might also consider this lack of current national statistics as a weakness of this pilot exam.

Each of the skill dimensions (Reading, Critical Thinking, Writing, and Math) is divided into three proficiency levels. Each test question in any of the three academic areas is directly associated with one or more of those proficiency levels. The comprehensive report from the scoring group provides data on how the students performed at each proficiency level according to a three-part classification system (Proficient, Marginal, Not Proficient). For example, as noted above, our graduates performed well on the College-level Writing dimension, surpassing sophomores in the national reference group. However, although 67% of our students performed at the highest (Proficient) classification of Writing Level 1, only 14% attained the Proficient classification at Writing Level 2, and a mere 7% was Proficient at Writing Level 3. Figure 6 approximates the percentages of JSCC students who were proficient, marginal, and not proficient at each competency level of the Skill Dimensions. The percentage of students who scored at the Not Proficient Level increased this year on five of the nine dimensions (Reading 1 & 2, Writing 1, and Math 2 & 3) while increases at the opposite end of the spectrum can only be seen on two of the nine dimensions (Writing 1 and Math 3).

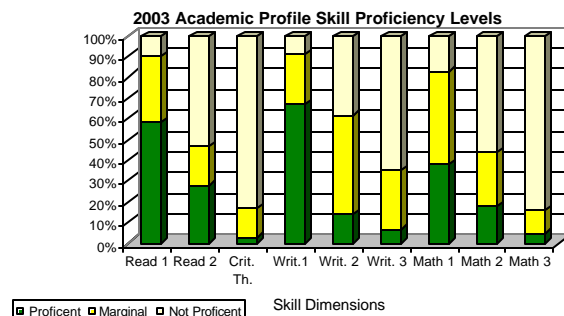


Figure 6. Percentages of students who performed proficiently at each skill dimension level.

In addition to the total, academic area, skill dimension, and proficiency level scores discussed, the college report also provides comparative means based on a variety of student-reported demographics. For example, 27 males and 77 females took the exam at Jackson State this year. Even though the females outscored the males on all three academic areas and in one skill dimension (Reading), the males (Total Score $\bar{M} = 446.70$; $SD = 17.75$) outscored the females (Total Score $\bar{M} = 441.47$; $SD = 14.96$) on the total score mean as well as on three subscale dimensions (Critical Thinking, Writing, and Math). Figure 7 illustrates the demographic comparisons for the seven subscale scores by the number of credit hours the graduation candidates transferred into Jackson State Community College.

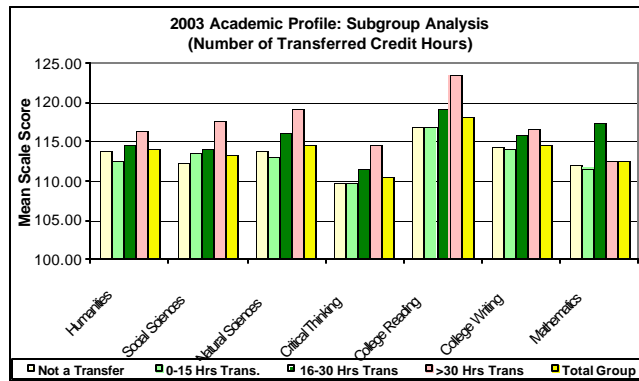


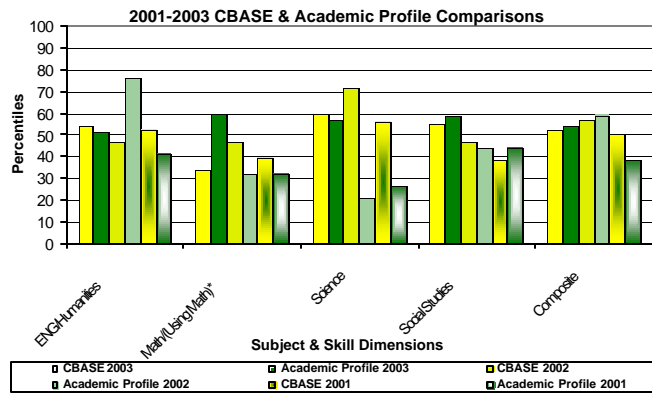
Figure 7. Comparison of JSCC subscale scores by the number of transferred credit hours. It is interesting to note and should be useful for planning purposes to know that the JSCC native students outscored only those students who transferred 0 – 15 credit hours and that was on five of the seven subscales and the total score. Graduates who had transferred more than 30 credit hours into the institution outscored all others on six of the seven dimensions as well as on the total score. These results should raise some concerns among the faculty and academic administrators, especially if taken at face value. However, one possible alternative explanation may be that 68 of the students who took this exam graduated with Associate of Applied Science degrees so their programs of study may not have required as many or as varied general education courses as some of the transfer students may have brought with them. It warrants further investigation. Other subgroup analyses are available by age, ethnicity, full-time/part-time status, the number of hours worked on a job while taking classes, GPA, and major. Similar score comparisons are not provided by the CBASE scoring group.

Scoring

During years one through four of the cycle, institutions must submit a progress report on the pilot test for Standard I. B. along with the full Performance Funding Report. All institutions that comply with the reporting requirement will be awarded the full five points for this standard. Jackson State Community College will be requesting five of five points for general education pilot testing on Performance Funding Standard I.B. for 2002-2003.

Comparative Analysis and Future Considerations

The most important consideration continues to be finding the general education exam that is the best “fit” for our curricula and our graduates. The pilot-testing option gives us the opportunity to explore some different standardized tests. But in order for the data to be meaningful we must be able to compare the exams on a parallel field. The way the College BASE and ETS Academic Profile data are scored and reported back to JSCC continues to present some problems. As explained more extensively in the 2001 Report on General Education Testing, it seems that the best and, perhaps, only possible way to compare performance results between the College BASE and the ETS Academic Profile is by comparing the percentile rank for the mean scores against their respective reference percentile norms. For example, if 52% of the national reference group of sophomores in associate-degree-granting colleges scored lower than the national mean on the Academic Profile and 54% scored lower than the JSCC mean but 54% of the national reference group of two-year colleges scored lower than the composite mean on the College BASE and 52% scored lower than JSCC’s composite mean, then we might assume that the Academic Profile is a better “fit” for our GEN ED core and students. However, we need additional longitudinal data to make such a generalization. Figure 8 compares Jackson State’s 2001 – 2003 percentiles for the College BASE and the ETS Academic Profile.



Note. The Academic Profile does not have a Math subject test but the Using Math Data skill dimension is present throughout the exam.

Figure 8. Comparison of 2001 - 2003 graduate performance on College BASE and ETS Academic Profile exit exams by the respective percentile rankings.

As may be clearly seen in Figure 8, we currently have only three years' worth of data. Only one result is clear at this time: JSCC graduates consistently perform better on the CBASE in the natural sciences than they do on the Academic Profile. All other results are mixed. In 2001, JSCC's comparative total mean percentile was lower on the Academic Profile than on the CBASE; but, in 2002 and 2003, Jackson State's percentile was higher on the Academic Profile than the CBASE. Note that the comparisons shown in the figure also suggest that the Academic Profile may be a better assessment tool for Jackson State Community College's graduates in the Social Sciences subject area while the College BASE has been somewhat more favorable in Math and Humanities during two of the three years. This continuing dichotomy should be explored further by the faculty and administration.